ABSTRACT

A transconductance power amplifier for amplifying a signal to a capacitive load, including a first N-channel enhancement MOSFET transistor operatively arranged to source current to the capacitive load, wherein the first N-channel MOSFET transistor has a threshold gate to source voltage, a second N-channel enhancement MOSFET transistor operatively arranged to sink current to the capacitive load, an operational amplifier operatively arranged to transmit and amplify an input signal to both of the first and second MOSFET transistors, and, means for biasing the first N-channel enhancement MOSFET transistor such that its gate to source voltage is always at or above its threshold when the load draws near zero current so that very little additional gate charge is required to turn it on more fully.